Remarks

In the Office Action dated August 21, 2008, the following rejections are present: claims 1-29 stand rejected under 35 U.S.C. § 112(1); claims 12-17 and 20-27 stand rejected under 35 U.S.C. § 112 (2); and claims 1-3, 7, 11, 14-16, 18-19, 21, 23 and 26-28 stand rejected under 35 U.S.C. § 103(a) over the Park reference (U.S. Patent No. 6,879,223) in view of the Ralph reference (U.S. Patent No. 5,640,699). The disclosure is objected to due to informalities and failure to provide antecedent basis for the claimed subject matter, and the drawings are objected to. Applicant traverses all of the rejections and, unless stated by the Applicant, does not acquiesce to any objection, rejection or averment made in the Office Action.

Applicant disagrees with the Office Action's generally adverse assessment of the specification, and rather submits that the specification is compliant with 35 U.S.C. § 112(1). In accordance with M.P.E.P. § 2161.01, "[t]he function of the written description requirement is to ensure that the inventor had possession of, as of the filing date of the application relied on, the specific subject matter later claimed by him or her; how the specification accomplishes this is not material." The Office Action does not assert that the specification fails to demonstrate possession of the claimed invention. Rather, the Office Action opines that a few phrases should be rewritten for idiomatic or grammatical clarity. As discussed in this amendment/response, Applicant submits that the noted phrases carry a known meaning that is sufficiently clear. Moreover, Applicant submits that the description in the specification is sufficiently clear to provide written description and enablement of the claimed invention, and requests that a proper evidentiary demonstration be made should the objection be maintained. Withdrawal of the objection is requested.

Applicant disagrees with the objections to the disclosure, and submits that each instance of allegedly vague terminology cited by the Office Action would be sufficiently clear to one of skill in the art. Moreover, the Office Action has provided no evidentiary support that the cited phrases would not be clear to one of skill in the art, despite Applicant's invitation for the Examiner to do so. The above notwithstanding, Applicant submits that the amendments to the specification provided herewith render moot at least

those objections pertaining to the paragraphs beginning on page 2, line 31 and page 3, line 19. Withdrawal of these objections is requested.

With respect to the objection to the specification for failure to refer to reference numbers provided in the drawings, Applicant submits that the previous Response, dated May 20, 2008, sufficiently addressed the alleged deficiencies. For example, all extent reference labels had been previously removed from Figs. 8 and 10, and the indicia appearing on the axis labels are understood on their own terms as well as from the descriptions of Figs. 8 and 10 that appear on page 5:12-15, page 7:11-12, page 7:15-17, page 9:5-6, and page 9:16-18. Moreover, the labels "b" and "d" in Fig. 11 are used consistently throughout the specification and other figures to denote the conductive track width and dielectric thickness, respectively. As such, Applicant submits that additional explanation is not required for a full and complete understanding. Withdrawal of the objection is therefore requested.

With respect to the objection to the drawings for providing reference numbers not referred to in the specification, Applicant submits that the previous Response, dated May 20, 2008, sufficiently addressed the alleged deficiencies. However, in an effort to expedite prosecution, Applicant submits herewith two replacement drawing sheets indicating the dimensions "b" and "d" in Fig. 1, and providing corrected reference number labeling in Figs. 12(a) and 12(b). Applicant further submits that no separate reference label "2k" is needed in Fig. 9(b), particularly because it is clear from the description and the figures that the dimension "2k" refers to twice the dimension "k", which is already adequately indicated and described. Withdrawal of the objection is therefore requested.

Applicant traverses the objection to the specification as allegedly failing to provide proper antecedent basis, and submits that each of the identified claim features are fully supported. For example, the claim 4 recitation of the thickness *d* being less than the width *b* is described, *e.g.*, on page 4:5-8 and page 7:27-34, and shown in Figs. 9(a), 9(b) and 11. The claim 6 recitation of the dielectric constant of the layer surrounding the conductive tracks being greater than the dielectric constant of the surrounding dielectric layers is described, *e.g.*, on page 4:9-11. The various dielectric compositions recited in claims 9 and 10 are described, *e.g.*, on page 4:9-20. The working frequency of 400 MHz

recited in claim 11 is described, *e.g.*, on page 5:27-29. The recitation of the value of *k* being larger by the specified value as in claims 12 and 13 is described, *e.g.*, on page 5:9-15. The claim 17 recitation of the non-overlapping extension is described, *e.g.*, in Fig. 2 and corresponding discussions. The recitation of the conductive tracks surrounded by magnetic materials as in claim 22 is described, *e.g.*, on page 4:3-4. The recitation of the impedance of the coupling being determined by the position of the conducting track structure as in claim 26 is described, *e.g.*, on page 6:13-15. Applicant further submits that the original claims as filed are part of the patent specification. *See* 35 U.S.C. § 112(2); *In re Benno,* 768 F.2d 1340, 1346 (Fed.Cir.1985). As such, in establishing a disclosure, an applicant may rely not only on the description and drawings as filed but also on the original claims if their content justifies it. Applicant therefore requests reconsideration and withdrawal of the objection.

Applicant traverses the rejection of claims 1-29 under 35 U.S.C. § 112(1) as allegedly failing to comply with the enablement requirement. The Office Action states on page 4 that there is inadequate written description to enable one of skill in the art to realize a resonator having different common-mode impedance and push-pull impedance without resorting to undue experimentation. Applicant submits that the specification is fully enabling of the claimed subject matter in which the conducting track structures are separated by a dielectric layer having a dielectric constant and a thickness relative to the widths of the conducting track structures to achieve a different common-mode impedance and push-pull impedance. For example, on page 4:11-12, Applicant's specification states, "[b]y means of a very thin layer with raised dielectric constants, strongly differing common-mode and push-pull impedances may be generated." Moreover, in that same paragraph on page 4, Applicant discusses that the precise dimensions of a resonator, along with its frequency response, are routinely determined by simulation and calculation, which do not require undue experimentation. *See,* M.P.E.P. 2164.01. Applicant further describes that for small resonator structures, the desired overlap can be maintained by adjusting the width of one of the conducting tracks by an amount sufficient to compensate for a maximum positional offset, for example due to manufacturing tolerances. *See, e.g.*, page 5:9-19.

Applicant further submits that it appears that the rejection for alleged lack of enablement is improperly based on an insufficient written description analysis. In

accordance with M.P.E.P. § 2161, and the written description requirement and enablement requirement may each be satisfied without satisfying the other (*see, e.g., In re Armbruster*, 512 F.2d 676, 677 (CCPA 1975). Moreover, the Examiner has not provided sufficient evidence in support of such an analysis. As discussed, the claimed subject matter is described in the specification in such a way as to enable one of skill in the art to make and/or use the invention. M.P.E.P. § 2163 states that:

> The examiner has the initial burden, after a thorough reading and evaluation of the content of the application, of presenting evidence or reasons why a person skilled in the art would not recognize that the written description of the invention provides support for the claims. There is a strong presumption that an adequate written description of the claimed invention is present in the specification as filed, *Wertheim*, 541 F.2d at 262, 191 USPQ at 96.

Applicant respectfully submits that the Examiner has not met the initial burden of a thorough reading and evaluation of the application and has presented neither sufficient evidence nor sufficient analysis/reasons why a person skilled in the art would not recognize that the written description of the invention provides support for the claims. Specifically, Applicant is to be afforded a strong presumption that an adequate and enabling written description of the claimed invention is present in the specification as filed. The Examiner has not provided any such evidence/reason other than simply concluding that there is no support.

For at least these reasons, Applicant requests reconsideration and withdrawal of the § 112(1) rejection of claims 1-29.

Applicant traverses the rejection of claims 12-17 and 20-27 under 35 U.S.C. § 112(2) as allegedly being indefinite. Without acquiescing, and for the purposes of expediting prosecution, Applicant submits that the present amendment sufficiently addresses each of the claim items delineated in the Office Action as being indefinite. Reconsideration and withdrawal of the § 112(2) rejection is therefore requested.

Applicant traverses the § 103(a) rejection of claims 1-3, 7, 11, 14-16, 18-19, 21, 23 and 26-28 over the Park reference in view of the Ralph reference. Applicant notes without acquiescence that claim 1 has been amended to include features originally recited in claim 4, and that claim 4 was not included in the § 103(a) rejection. As such, each of the claims

appears to be allowable. Moreover, Applicant submits that the § 103(a) rejection is improper due to lack of correspondence and lack of a valid reason to combine.

Applicant's invention relates to the construction and miniaturization of resonator elements within three-dimensional multilayer substrates, and particularly to such substrate constructions in which opposing conducting track structures are arranged to simultaneously form a capacitive element and an inductive element of the resonator. The Park reference does not teach a multilayer substrate construction, but rather teaches a laminated construction of multiple circuit boards where each coil is provided on a separate circuit board, and the coils are overlapped with the circuit board substrate between them. In such an arrangement, the thickness and material of the circuit board limits selection and adjustment of the thickness and dielectric constant of the dielectric layer between overlapping coils in the manner claimed by Applicant. Moreover, these features of Park inhibit miniaturization of resonator elements in the manner described by Applicant. Applicant additionally observes that Park fails to teach connecting the end of one opposed conducting track to the start of the other opposed conducting track, as claimed (see claim 16). The coil-to-coil connections shown in Park and asserted by the Examiner (see page 6 of the Office Action and Park's Fig. 3) clearly indicate that the coils being connected do not overlap, and therefore are not opposed conducting tracks as recited in Applicant's claims. Rather, Park teaches that all the signal line coil patterns are connected to each other to form one signal coil, and that all the ground line coil patterns are connected to each other to form one ground coil, which does not correspond to the start-to-end connections between overlapping conducting tracks as claimed by Applicant (*see, e.g.*, Figs. 1 and 2).

The addition of the Ralph reference does not cure the deficiencies of the Park reference as noted above. In particular, it is unclear how the purported combination of Park and Ralph could be realized. Ralph discloses a thick film structure deposited on a circuit board, the thick film structure including a dielectric layer deposited between two overlapping and aligned metal layers. This structure defines a circuit cell whose impedance is determined by the width of the metal layers. The Park reference creates a distributed constant filter by stacking separate printed circuit boards and connecting the signal and ground coil lines together in a specific manner. As explained by Park, "[t]o obtain a

distributed constant type filter … according to the present invention, a conventional internal pattern structure in which two coils are overlapped must be changed to a structure in which links are overlapped." *See*, Col. 3:57-61. No evidence or explanation has been presented by the Examiner how the overlapped thick film cell of Ralph could be incorporated into the specific multiple circuit board construction and coil connection arrangement of Park.

For at least these reasons, Applicant submits that the § 103(a) rejection of claims 1-3, 7, 11, 14-16, 18-19, 21, 23 and 26-28 is improper and requests that it be withdrawn.

Further, the art of record fails to teach or suggest the features recited in new claims 30 and 31. For example, neither Park nor Ralph discloses a resonator element having a conductor length that is less than a quarter wavelength, as in claim 30. Indeed, the Ralph reference teaches that the length of the conductors is equal to one quarter wavelength (*see, e.g.*, Col. 4:18-20), and neither reference teaches a dielectric between opposed conducting tracks having a thickness of 25 μm or less, as in claim 31. Indeed, the smallest thickness for the dielectric layer disclosed in the Ralph reference is more than 2.5 times thicker than 25 μm (*see, e.g.*, Col. 3:25-29).

In view of the remarks above, Applicant believes that each of the rejections/objections has been overcome and the application is in condition for allowance. Should there be any remaining issues that could be readily addressed over the telephone, the Examiner is asked to contact the agent overseeing the application file, Peter Zawilski, of NXP Corporation at (408) 474-9063.

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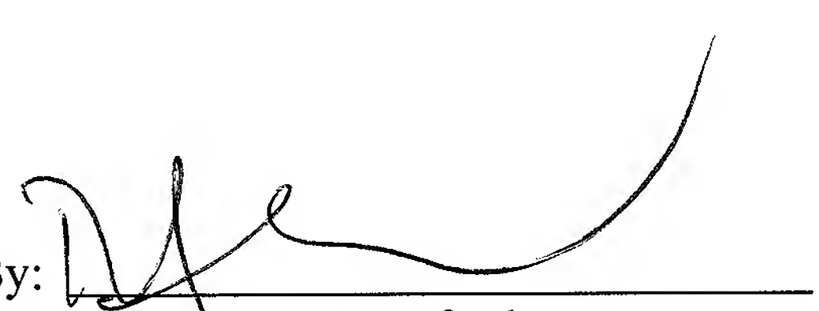
By: 
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Attachment: Two Replacement Drawing Sheets